

## METHOD AND SYSTEM FOR COOLING HIGH POWER DENSITY DEVICES

### ABSTRACT OF THE DISCLOSURE

[0084] A turbomachinery system for cooling a high power density device includes a turbomachine configured to deliver a high flux cooling medium toward the high power density device, a housing containing a motor, a compressor, or both, of the turbomachine, a heat exchanger in fluid communication with the turbomachine and arranged for being thermally coupled to the high power density device, and a transition duct arranged intermediate the heat exchanger and turbomachine.